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OBSERVATIONS

ADDRESSED TO THE PUBLIC IN GENERAL

ON THE

COW-POX,

Shewing that it originates in SCROPHULA, commonly called
the EVIL;

ILLUSTRATED WITH CASES

TO PROVE THAT IT IS NO SECURITY AGAINST THE

Small-Pox.

Also pointing out the dreadful Consequences of this new Disease,
so recently, and rashly, introduced into the Human Constitution.

TO WHICH ARE ADDED

OBSERVATIONS

ON

THE SMALL-POX INOCULATION;

PROVING IT TO BE MORE BENEFICIAL TO SOCIETY
THAN THE VACCINE.

BY R. SQUIRRELL, M.D.

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AND INOCULATION HOSPITAL.

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INTRODUCTION.

I AM well aware that he who shall offer, at this time, any observations, however true and just, which are inimical to the practice of Vaccine Inoculation, a subject so frequently discussed, and so generally approved, will incur the imputation of prejudice, presumption, and conceit; and in all probability will be treated by some, with the highest degree of ridicule and contempt. Yet having met with a great number of facts which very much militate against the practice, and, at least, render it very doubtful, I am compelled to differ in opinion with the inventor, and those who support it, respecting its utility; and shall, therefore, in the following pages, produce many instances to prove, that instead of its being a benefit and a blessing to mankind, it is a pernicious and baneful experiment. I shall endeavour, with the utmost candor, to convince those, who at the present moment, for want of sufficient experience, entertain doubts respecting the propriety of vaccination; and

also, that part of the faculty who have not yet arrived at such a state of infatuation in its favour as some have, that it is much inferior to the small-pox inoculation ; a practice which in justice, should not have been forsaken, nor any other mode adopted in its stead, unless sufficient reasons, established on the broad basis of truth, and general experience, had been adduced in support of so singular a revolution in medicine ; but this has not been the case, vaccination has been practised and encouraged by those who have had little or no experience, either in the small-pox, or its inoculation.

Inoculation, every body must acknowledge, was not the province or department of physicians. They considered it much beneath them, and even thought themselves degraded in performing the operation ; nor was it deemed necessary that they should attend to the progress of the disease ; and though in other respects they might be extremely well acquainted with the profession of medicine in general, yet with regard to inoculation in particular, they had not practice sufficient to furnish them with an adequate knowledge of the subject, and, consequently, in such a case, ought not to be considered as men of experience, nor qualified to make any innovation. This part of the profession has been always practised by apothecaries and surgeons, who are the only men in this country possessing any

claims to a real judgment, either in the choice of the matter, performing the operation, or attending to the progress of the disease; and in short, these are the only men who are qualified, and could be justified in making any alteration (were it necessary) in the practice.

No one ever thinks of consulting a physician respecting an inoculation for the small pox, other than the gentleman who presides over the medical department at the hospital, unless the disease be likely to terminate fatally, and, in that case, but seldom. Families, almost always depend on the ability of their apothecary, consequently, physicians cannot be accustomed to see many instances of the disease. Hence it must appear to every person of common understanding, how improper it was for them, without sufficient experience, to make any innovation, and to introduce a new, filthy, and malignant disease, into the human constitution. It has always been a maxim with me to persevere in my opinions, and my mode of practice, until the instruments which I employ disappoint or deceive me, and this not having happened with the small-pox inoculation, I have no reason either to forsake, discard, or change it for any other, until I be convinced, by more substantial proofs than have yet been adduced, that it is inferior to vaccination,

From the beginning of this practice I have been a spectator and reader only, and have, therefore, been enabled to observe the many pranks played upon the health and credulity of the public. It has been observed, and I believe with truth, that a bystander observes as much, if not more of the game, than those who play it.

During the time that I was resident apothecary at the small-pox and inoculation hospitals, I had an opportunity of observing the difference between the small-pox, which was caught in the natural way, and that, produced by inoculation; and the difference was so much in favour of the latter, that I consider it to be one of the greatest discoveries, and most beneficial improvements, in the art of medicine.

On reading Dr. Jenner's first account of the origin of the cow-pox, I was struck with such horror and aversion, that I could not as a man of honor, or feeling, submit to or coincide with vaccination; and I was very much surprised to find it prosecuted with such energy and zeal, by a person who was capable of giving so accurate and ingenious account of the disease, in its then present state, united with all its dreadful consequences. What, in the name of God! could have induced him to have introduced a disease of so filthy a nature, and apparently, according to his own account, such a dangerous ten-

dency! I should have imagined that his own description would have furnished him with the most powerful argument against it.—He certainly was not, at that time, namely, when he collected the facts, and published his first observations, justified as a man possessing either humanity, or discernment, in adopting such an extraordinary measure.

Reader, before you censure me, be pleased to peruse the following account, extracted from his own book, which, in my opinion, instead of encouraging any man to adopt vaccination, will rather deter him from giving it a trial.

“ There is a disease to which the horse, from his state of domestication, is frequently subject. The farriers have termed it the grease. It is an inflammation and swelling in the heel, from which issues matter possessing properties of a peculiar kind, which seems capable of generating a disease in the human body (after it has undergone the modification I shall presently speak of) which bears so strong a resemblance to the small-pox, that I think it highly probable it may be the source of that disease.

“ In this dairy country a great number of cows are kept, and the office of milking is performed, indiscriminately, by men and maid servants. One of the former having been appointed to apply dressings to the heels of a horse affected with the

grease, and not paying due attention to cleanliness, incautiously bears his part in milking the cows, with some particles of the infectious matter adhering to his fingers. When this is the case, it commonly happens that a disease is communicated to the cows, and from the cows to the dairy maids, which spreads through the farm until most of the cattle and domestics feel its unpleasant consequences.

“ This disease has obtained the name of Cow-Pox. It appears on the nipples of the cows in the form of irregular pustules. At their first appearance, they are commonly of a palish blue, or rather of a colour somewhat approaching to livid, and are surrounded by an erysipélatous inflammation. These pustules, unless a timely remedy be applied, frequently degenerate into phagedenic ulcers, which prove extremely troublesome. The animals become indisposed, and the secretion of milk is much lessened. Inflamed spots now begin to appear on different parts of the hands of the domestics employed in milking, and sometimes on the wrists, which quickly run on to suppuration, first assuming the appearance of the small vesications produced by a burn. Most commonly they appear about the joints of the fingers, and at their extremities; but whatever parts be affected, if the situation will admit, these superficial suppurations put on a circular form, with their edges more elevated than

their center, and of a colour distantly approaching to blue. Absorption takes place, and tumors appear in each axilla or armpit. The system becomes affected, the pulse is quickened, and shiverings succeeded by heat, with general lassitude and pains about the loins and limbs, with vomiting, come on. The head is painful, and the patient is now and then even affected with delirium.—These symptoms, varying in their degrees of violence, generally continue from one day, to three or four, leaving ulcerated sores about the hands, which, from the sensibility of the parts, are very troublesome, and commonly heal slowly, frequently becoming phagedenic like those whence they sprang. The lips, nostrils, eyelids, and other parts of the body, are sometimes affected with sores; but these evidently arise from their being heedlessly rubbed, or scratched with the patients infected fingers. No eruptions on the skin have followed the decline of the feverish symptoms in any instance that has come under my inspection, one only excepted, and in this case, a very few appeared on the arms; they were very minute, of a vivid red colour, and soon died away without advancing to maturation: so that I cannot determine whether they had any connection with the preceding symptoms. Thus the disease makes its progress from the horse to the nipple of the cow, and from the cow to the human subject.

Morbid matter of various kinds, when absorbed into the system, may produce effects in some degree similar; but what renders the cow-pox virus so extremely singular, is, that the person who has been thus affected is for ever after secure from the infection of the small-pox; neither exposure to the variolous effluvia, nor the insertion of the matter into the skin, having produced this distemper."

This is an exact account of the origin of the cow-pox, and of the matter so introduced, by inoculation, into the blood of the human subject, published by Dr. Jenner, in order to produce the cow-pox, with pretensions of its being a perfect security against the small-pox; but I shall adduce many incontrovertible facts to prove that it is not a security against that disease, and I am apprehensive that the public will soon have reason to regret that such a disease as the cow-pox was ever known, and to acknowledge that so far from the discovery being a BLESSING, it will be a CURSE, not only to the present, but to future generations.

OBSERVATIONS

ON THE

COW-POX.

ABOUT five years ago, Dr. Jenner introduced the Cow-Pox into practice, as the greatest discovery and improvement in the science of medicine, under the pretence of its being a perfect security against the small-pox, and a much milder disease, than that which is produced by the old established inoculation. But even this short period has exhibited many incontrovertible facts, which shall be presented to public view, in order to shew that this doctrine is false and groundless. In a great number of instances, the small-pox has been caught, after inoculation for the cow-pox; which proves, that vaccination has not succeeded in preventing the variolous disease. We have a right, therefore, at least, to doubt, and are warranted in judging of the future, by our experience of the past.

When I perused Dr. JENNER's account of the Origin of the Cow-Pox, namely, from the *grease in the horse*, I began to suspect that it was a species of scrophula, and the more I have examined and reflected on the subject, the more I have been convinced of the truth of this conjecture; and I should have published my opinion at an earlier period, had not the current of prejudice, and popular opinion,

been so much in favor of vaccination, that I had reason to imagine, such an undertaking would have tended more to counteract, than to forward my intentions.

At present, however, what was before an overwhelming torrent, has been gradually diminished into a feeble current ; and I may now promulgate my opinion upon the subject, with a reasonable hope of success. A sense of duty, and the earnest desire that I feel to render a service to the public, are the only motives by which I am actuated, in presenting these remarks ; and should they be prevented from receiving any further injury from the effect of this malign disease, I shall think myself amply rewarded. If I manifest any warmth or extravagance in my expressions, I hope it will not be attributed to any disrespect, or ill-will, that I entertain towards the advocates of vaccination ; but, that as a friend to science, I am solely guided by truth. These practitioners, no doubt, had public utility in view, when, with so much zeal, they endeavoured to render vaccination universal : they are, therefore, for their great industry, certainly entitled to a public acknowledgment. “ *Humanum est errare, sed in errore perseverare diabolicum.*”

To trace the cow pox to its original source, it will be necessary to premise a few remarks on the grease in the horse, from which it sprang. But previously to investigating the nature of that disease, and to give the reader a true idea of it, it may not only be proper to describe the manner in which it has been communicated to the cow, and the pernicious effects it has produced on that animal ; but also to shew the direful consequences which have

taken place in the human constitution, though I have already transcribed the origin of it at page 5 of this work, from Dr. Jenner's book.

A man servant, having been appointed to apply dressings to the heels of a horse, affected with the grease, and milking the cows afterwards with some of the infectious matter adhering to his fingers; affected the teats of the cows, and produced eruptions or pustules, called the cow-pox, attended with very painful inflammation. These pustules frequently degenerate into spreading and corroding ulcers, which not only render the parts exquisitely sensible, but also prove extremely troublesome and painful. This is the mode by which the matter is communicated from the heels of the horse to the cow. These are the effects that it produces on that animal; and this is the virulent poison taken from the pustules, to be introduced into the human system, and occasion the cow-pox.

The cow being thus affected, the matter from the pustules on the teat becomes so infectious, that it produces on different parts of the hands of the milkers inflamed spots, sometimes appearing on the wrists, but most commonly about the joints and extremities of the fingers; assuming the appearance of small bladders, produced by a burn. They then proceed rapidly to form matter; tumours appear in each armpit; the whole system becomes affected, the pulse is quickened, shiverings, succeeded by heat, general lassitude, pains about the loins and limbs, with vomiting, take place; the head is painful, and the person is sometimes affected with delirium.—These symptoms generally continue from one to four days, leaving sores about the

hands, which, produce great sensibility of the parts, are very painful, and heal slowly, often becoming phagedenic, or corroding ulcers; the lips, nostrils, eyelids, and other parts of the body are sometimes affected with sores. Thus the disease makes its progress, from the greasy heels of the horse, to the teat of the cow, and thence to the human body. No man in possession of any knowledge, respecting small-pox inoculation, would have been presumptuous enough to have introduced such a venomous disease; experience proves, that we have already too many maladies. It appears, by the enthusiasm that has hitherto prevailed, that the small-pox inoculation, had totally escaped the recollection of mankind: a discovery and improvement far surpassing vaccination, which, I am sorry to observe, must eventually prove destructive of the human constitution, as well as a disgrace to this country.

I shall now proceed to explain the GREASE in the horse, asserted, by Dr. Jenner, and proved by subsequent experiments, to be the origin of the cow-pox.

In order to shew, that the grease of the horse, is, in a great measure, similar to the scrophulous disease in the human subject, I shall, in the following table, give an extract from the authors on Farriery, respecting this disease in the horse, and a description from the authors on Surgery and Medicine, of scrophula.

THE GREASE IN THE HORSE.

This consists of inflammation, swelling, and ulceration in the heels of that animal, whence issues, at times, specific matter.

The Predisposing Causes.

1. A predisposition in the habit similar to a scrophulous kind.

2. A vitiated or morbid state of the blood.

Occasional Causes.

1. Cold applied to the parts after having been in a warm temperature.

2. Want of exercise.

3. Debility of the vessels of the part.

4. An impoverished state of the blood.

5. A plethoric state of the whole system.

6. Wet and low grounds.

The effect of this disease, if it continue long, is to destroy the motion of the joint.

The proximate cause is not known by the authors on farriery.

This disease is very difficult of cure, when united to a predisposition in the habit.

THE SCROPHULA.

When this disease affects the joints, such as those of the elbows, fingers, ancles, or toes, it begins with inflammation, swelling, and terminates in ulceration, whence sometimes issues matter of a specific nature.

Predisposing Causes.

1. A scrophulous habit.

2. A morbid state of the blood.

Occasional Causes.

1. Want of warmth.

2. Want of exercise.

3. Debility.

4. An impoverished state of the blood.

5. Plethoric habit sometimes occasions it.

6. Low and damp situations.

The consequence of this disease, if it continue long, is a stiff joint.

The proximate cause has not yet been properly ascertained by authors.

This is cured with great difficulty when a predisposition is present.

When there is no predisposition in the animal, it is easily cured.

When there is a predisposition united to the occasional cause, the cure of this disease will, in a great measure, depend upon alterative medicines.

When there is no predisposition, it soon yields to proper applications.

Where the occasional cause has brought the predisposition into action, the cure will, in a great measure, depend upon alterative medicines.

This analogical table points out a similitude between the two diseases; and any common observer must be convinced, that the grease of the heels of the horse, and the scrophula, when it affects the joints of the human subject, are one and the same disease. They arise from the same causes, and require medicines, and applications, from the same class of the *materia medica*.

Any of the above occasional causes, being applied, excite or call forth the predisposing cause into action, and they both unite and produce the proximate cause: consequently, the grease, without which the natural disposition would have been quiescent or dormant, and produced no effect whatever; nor would the occasional cause, by itself, have induced the disease under the same circumstance. Hence the reason why one horse will have the disease, and another, which shall be exposed to the same or stronger occasional cause, not be affected. In short, very few horses, which have this predisposition, escape the grease; but, on the contrary, amongst those horses which have not this temperament, the disease is seldom found. I hope the reader will recollect, that this is the infectious matter, issuing from a scrophulous ulcer, which is communicated to the teat of the cow, thence

introduced by inoculation into the blood of the human subject, for the purposes before mentioned.

I should imagine that a parent, reflecting for one moment on the nature of this virus, instead of consenting to such a poison being introduced into the blood of his beloved infant, would be struck with horror, and express his disapprobation and disgust: for no one, with truth, can assure him, that the matter would not be taken from a pustule which originated in scrophula. Whoever wishes to discharge his duty towards his child, whose health is immediately under his protection, could never submit to this infectious matter being inserted into its arm, thence conveyed through the whole system, where it must spread its baneful influence, and create those evils which shall be presently noticed.

Whenever any question has been put to me, respecting the cow-pox inoculation, I have represented this doctrine in its true colours, and endeavoured, from a conscientious regard to truth, to dissuade parents from it, treating it as a matter likely to terminate seriously: at the same time observing, that there could be no necessity to change the practice, as the children had hitherto done extremely well under the small-pox inoculation. Those persons who have been weak enough to be carried away by the popular tide, contrary to my opinion, have repented, and declared, owing to the eruptions affecting the children, that they never would consent, in future, to any more of them being inoculated with the cow-pox. So that experience and public opinion, no doubt, will be propitious to my views, in preventing, *in toto*, this pernicious practice.

I shall now mention the consequences of the Cow-Pox.

1. Some children have caught the small pox, after vaccination, though it had been pronounced to have taken proper effect, and the parents had rested satisfied, consequently, believing their children to be safe and secure. Some have afterwards had the variolous disease, in a very violent manner; one child died. This case, I shall particularize, presently.

2. Numerous instances have occurred, where the children have been affected, with a very troublesome itching eruption, harassing them, from the time of vaccination, for months, and even years afterwards; and, undermining the constitution, from the almost constant irritation, and the continual interruption of sleep. This eruption, very frequently terminates in phagedenic or corroding ulcers, similar to the cow-pox, as described by Dr. Jenner. A child of Dr. SMYTH STUART, who resided in Bloomsbury-Square, died from the irritation, arising from the inflammation, eruption, and ulceration on the arm; which case will be mentioned. No eruption of any kind, had ever appeared on the skin of these children, previously to vaccination:—I appeal to the parents, for the truth of this assertion, who, I have no doubt, will come forward to testify the fact.

3. Some children, ever since they were vaccinated, have been troubled with coughs, difficulty of breathing, and fevers of a slow and intermitting kind; their appetite has become diminished, their vivacity lost, the countenance pale, the flesh flabby; and a train of symptoms has ensued, similar to

those, which always arise from an absorption of extraneous, and poisonous matter :—In short, those children, who before were lively, strong, and had every appearance of health, have become dull, weak, and constantly ill, from the same cause.

To see these children, thus affected, some with eruptions and ulcers, others with coughs and fevers, and in other respects extremely ill, has rendered the parents very unhappy, and even miserable, not only from the present inconvenience, but also from these malignant complaints, arising from this infection, being both tedious and difficult to eradicate. Shocking reflection to a humane mind ! that a poison should be introduced into the human constitution, without the plea of necessity, or the support of reason or experience ; to make experiments, which the success of the small-pox inoculation, had long ago rendered *futile*.

After pointing out the ill effects of vaccination, it may be requisite to recommend those medicines, that are best calculated to remove them, and to eradicate every particle of the cow-pox virus out of the blood, so that health may be restored to its primary state ; which experience evinces may be effected, provided the following method be strictly attended to.

For the cure of those eruptions, which sometimes terminate in spreading ulcers, small doses, of a mild mercurial preparation should be given, and continued from three to five weeks, or the mercury may be introduced into the system by friction, and the quantity adapted to the age, constitution, and violence of the disease. This mode I have found to answer extremely well in my practice ;

sometimes it will be requisite to interpose gentle purges. Owing to the strong irritation which generally takes place, opiates will also be necessary in the evening, to procure rest and sleep; otherwise, the children will be extremely uneasy, and restless, through the whole night; for the warmth of the bed increases the itching to an intolerable degree.

This eruption sometimes terminates in spreading and corroding ulcers, called phagedenic, which give great pain, being exquisitely tender. Lapis Calaminaris, liberally sprinkled every morning into and round about the wounds, is the best application. They should, also, be dressed or anointed every evening with the nitrated ointment, which will greatly abate the itching.

To cure those complaints mentioned in the third class of consequences; such as Fever, Emaciation, and Debility; nearly the same mercurial preparations, with the gentle purges, as directed for eruptions, should be given, in order to remove the fever, and evacuate the cow-pox virus. To obviate the great debility, after the fever is conquered, it will be necessary to prescribe strengthening remedies; such as, a preparation of bark and steel, with light nourishing diet, a country air and exercise, and rubbing the region of the stomach and belly, and also the limbs, with flannel, every night and morning.

Dr. WOODVILLE's practice of vaccination, at the hospital, proves that the blood had a greater affinity to the small-pox matter than it had to the vaccine; consequently, it united with the former, and refused the latter. Hence, the small-pox took

effect, instead of the cow-pox, in more than half the number of the first five hundred he inoculated. Variolous matter, therefore, appears to be more congenial with the human system. Owing to the very slender affinity that the blood has to the cow-pox virus, the animal œconomy, after being compelled to receive it, endeavours by its own laws to evacuate it out of the habit, and which, sooner or later, according to the power of irritability, or the preserving principle, it will, no doubt, accomplish; the natural small-pox will then take place, or scrophulous complaints ensue. This circumstance of the small-pox happening, will most likely occur in regular order, in some about two years, three, seven, eleven, fourteen, seventeen, and in others twenty-one, or even at a later period after vaccination; and they who are acquainted with the animal œconomy must be well aware, that such a circumstance is likely to take place, owing to the *vis medicatrix naturæ* being ready to expel whatever may interrupt her salutary operations. Should this doctrine prove true, (which we have a right to expect, by what has already happened) in what a woeful state will the whole country be, in the course of a few years!—Impressed with this idea, I earnestly recommend to those physicians who preside over the vaccine institutions, to endeavour to anticipate the operation of nature, and prevent these evils taking place, by pursuing the method which shall in the next place be pointed out; for they have greater influence over those patients who are under their care and direction, to induce them to an acquiescence with such a practice, than private practitioners in general.—In short, as they have

gratuitously ingrafted a poisonous disease into the constitution, the least they can do, as a compensation to the public, is gratuitously to remove its pernicious effects.

The mode is this.—Some children who have been inoculated with the cow-pox, suffer no inconvenience afterwards. I recommend such to be inoculated (agreeably to the rules which will be suggested under the observations on inoculation for the small-pox, respecting the temperament of the child, and the season of the year, &c.) with variolous matter, in an early stage, taken from a healthy child ; but, upon no consideration whatever, with that matter from the small-pox which is caught, or even produced, by inoculation subsequent to vaccination.

Should this plan fail, I would advise some mild mercurial preparation to be given, from three to five weeks, adapted, in quantity and quality, to the age and constitution of the child ; then to desist, and a fortnight after, having gone through this particular process, with skill, prudence and attention, I propose inoculating again ; and if the medicine have had the desired effect in destroying the virus, the second inoculation will certainly succeed. I have one observation to make in favour of this method, namely, that it will be no detriment to the child, but the medicines necessary upon the occasion will eventually improve the constitution and general health ; and even should the inoculation not take effect under these circumstances, I can only observe, that *ex nihilo nihil fit* ; but should it succeed, the child will either be for ever insusceptible of the small-pox infection, or secure from those complaints that occur, subsequent to vaccination.

This very mode of inoculation for the small-pox I recommend, also, to be pursued by the parents of those children who come under the second or third class of consequences, after having undergone the necessary process, already pointed out, at page 17 and 18, for curing the eruptions, &c. and eradicating the cow-pox virus.

This doctrine, no doubt, will be rejected by some, reprobated by others, and laughed at by the ignorant, who are infatuated and bigotted in their own opinions; but those persons who are well acquainted with physiology, the science of medicine, and philosophy in general, will give at least some credit to a proposal, the success of which appears probable, and tends to the public good; and though they may not acquiesce with this proposition, yet, I trust, they will not condemn the measure.

Impressed with the strongest notions, that these simple experiments would be found to succeed in eradicating the cow-pox virus, and obviating its effects; as soon as the parents, whose duty it is to consent, shall afford me an opportunity, I shall give this mode a fair and candid trial, and the result shall be communicated from time to time to the public.

I next proceed to give a comparative view of the inoculation for the small-pox and the cow-pox, in order to prove that the latter is a dangerous and pernicious practice.

The cow-pox inoculation is not a security against the small-pox, as was promised, without experience, by the vaccinators; for many instances have occurred where, after vaccination, the small-pox has

been caught, of which some have recovered, and some have died, after they had been pronounced safe, and secure from its contagion.

The small-pox inoculation, on the contrary, is a perfect security against the natural small-pox; which may be proved by the physician who presides over the medical department at the hospital; by the great inoculators, the SUTTONS, and most private practitioners in London, who, no doubt, will confirm this assertion. And whoever asserts or attempts to prove the contrary, I maintain that he cannot be acquainted with the appearance of either the small-pox or chicken-pox, nor can he be supported by truth. I am much surprised to find a practitioner in the country, who perhaps may have an opportunity of visiting one or two patients under the small-pox, and as many under inoculation, through the course of the year, pretending to prove that persons have caught the small-pox twice, and that the same disease has happened subsequent to inoculation. This only evinces that, in this particular, he is deficient of observation. Professional gentlemen in London may, indeed, be furnished with a few instances, *apparently*, of this kind, arising from the practitioner mistaking the chicken-pox for the small-pox; but by this gentleman's account, they are very numerous in Gloucestershire, which certainly serves only to prove the inexperience of the inoculators in that part of the country, and how little they merit the confidence of the public, who value their health as the source of their comfort and happiness.

The late Dr. Heberden, a physician of the greatest celebrity, observes, that "Many foreigners seem

to have attended so little to the peculiar characteristics of the small-pox, particularly the length of time which it requires to its full maturation, that we may less wonder at the prevailing opinion, that the same person is liable to have it several times. Petrus Borellus records a case of a woman who had the small-pox seven times; and catching it again, died of it the eighth time. It would be no extravagant assertion to say, that here, in England, not above one, amongst ten thousand patients, is pretended to have it twice; and wherever it be pretended, it will always be as likely that the persons about the patient were mistaken, and supposed that to be the small-pox, which was an eruption of a different nature, as that there was such an extraordinary exception to what, we are sure, is so general a law."

During the time that I was resident apothecary in the Small-Pox and Inoculation Hospital, about 2000 persons were inoculated by Dr. ARCHER, who had been physician to that institution for more than twenty years previously to my living there; and who had inoculated about 20,000 patients, besides the great number that he was daily in the habit of inoculating at the hospital, and who were called out-door patients. His private practice must amount, also, to many thousands more; and he, a man of the strictest veracity, which no one doubted who knew him, positively declared, that he never heard of such a circumstance having ever happened. At the anniversary dinner, where he made a point of being present, he always declared to the governors, that he would give £500 to any person who could produce a solitary instance of the

small-pox having taken place in any patient whom he had inoculated. The SUTTONS, (particularly Mr. DANIEL,) who have established a very great reputation in this country, have inoculated about a quarter of a million of people ; and they never heard that the small-pox was caught afterwards. Baron DIMSDALE, who also inoculated many thousands, declared the same thing. But whenever the inoculation have appeared to fail, it has been owing to matter taken in a mistake from the chicken-pox instead of the small-pox ; consequently, the natural disease has been afterwards caught. This circumstance, from the want of a discriminating knowledge in the practitioner, not owing to the failure of the small-pox matter, has so far operated upon the minds of some persons, as to bring inoculation into temporary disrepute. But the way to judge properly, is to examine the records of the success, with which it has been practised in the hospital for nearly these fifty years, and of those persons who have made it their practice. I was sent for, to inoculate a child, whose parents requested that I would take the matter from an infant in the neighbourhood ; but instead of the pustules being the small-pox, they were evidently the chicken-pox ; and when I announced them to be that disease, the mother exclaimed, and said she was sure that it was the small-pox, for her apothecary had taken some of the matter for inoculation.

2. The cow-pox produces malignant effects, vitiates the blood and other juices, and is tedious, as well as difficult, to cure.

The small-pox inoculation produces no ill consequences whatever.

3. The cow-pox produces very ill health in children, which is mentioned under the third class of consequences.

The small-pox inoculation improves the health and constitution, and carries off many complaints which were very uncomfortable, both to the parents and children.

4. The cow-pox matter is taken from an animal diseased, and is of a specific scrophulous kind, as is proved from its effects.

The small-pox matter is taken from a healthy subject, and produces no disease whatever but the one for which it was intended.

5. The cow-pox has been introduced into this country above five years, during which time, experience has proved that it has produced many bad consequences.

The small-pox inoculation has been practised, nearly a hundred years in this country, and no ill effects can, with truth, be attributed to it.

This comparative view of the cow-pox and small-pox inoculation must convince every dispassionate person, that the former is a malignant disease, undermining the constitution, and subjecting the human body to many troublesome and incurable disorders; and ought, therefore, to be exploded out of practice. The small-pox inoculation, so far from its causing any diseases, considerably improves the constitution, as before observed; which all the parents, with whom I am acquainted, who have experienced inoculation in their families, can testify; and, instead of vitiating the blood, it very considerably tends to remove any impurities in that vital fluid. I have further to observe in its favour,

that the scrophula has not appeared in this country, so frequently, since inoculation for the small-pox has been so universally practised.

If Dr. Letsom's observations could possibly be applied, in any case, it might be, under this head, in favour of small-pox inoculation, with much greater propriety than in the cow-pox; namely, that every parent who refuses to have his or her children vaccinated, if they should die of the small-pox, commits infanticide or murder. It appears by this preposterous, extravagant, and enthusiastic remark, that the greatest discovery and improvement in the science of medicine, variolous inoculation, had escaped his recollection. Does not the Doctor believe, when he so zealously recommends vaccination, that he is perfectly right? And may I not ask him, if the parents have not as great a privilege to exercise their belief, as himself, without being charged with murder.

I shall now introduce the cases, in order to substantiate and prove my assertion—viz.—That the cow pox is not a security against the infection of the small-pox; and that it produces malignant effects in the human constitution;

CASE I.

Mr. HODGES's daughter, No. 15, Fullwood's Rents, was vaccinated at the Inoculating Hospital, in October, 1800, by Mr. Wachsel, resident inoculator, and he considered the appearance and progress to be perfectly regular and satisfactory. Nevertheless, she caught the small-pox, in August, 1804, and after the usual symptoms preceding the small-pox, eruptions appeared on the skin, termi-

nating in pustules from one to two hundred, which began to turn on the seventh day, from their first appearance. This child was attended by Mr. Owen, apothecary, of Little Britain, who considered the disease to be the small-pox.

CASE II.

The sister of the above-mentioned child was vaccinated, also, at the same hospital, in May, 1802, by the same gentleman, who was perfectly convinced of her having the cow-pox in a very satisfactory manner. But in September, 1804, she caught the small-pox, which was very prevalent in the neighbourhood at that time. Mr. Owen, who was, also, consulted on this case, declared the disease to be the small pox.

With the matter taken from the pustules on this child, on the fifth day from the commencement of eruption, I inoculated two children, which succeeded in every respect to my satisfaction.

Several physicians, surgeons, and apothecaries, formed themselves into a committee, to examine and investigate minutely into the above cases. Mr. Morgan, one of the committee, took matter from the pustules in the last case, and inoculated directly and indirectly several children, in which it succeeded in producing the small-pox. In consequence of the variolous disease having taken place, subsequent to vaccination, they published a pamphlet, in which they specified the experiments, and acknowledged the success of them. But they entitled the pamphlet, a "Report of a Medical Committee on the Cases of supposed Small-Pox after Vaccination." After having, as I before ob-

served, proved it to be absolutely the small-pox, how can these gentlemen reconcile such inconsistencies? The title page is certainly the only part which is exhibited to public view, and proclaimed in the public prints. I was very much surprised and hurt to find Doctors Willan, Clarke, and Croft, amongst those names which composed the committee; men whom I know to be possessed of real abilities in their professions. Dr. Willan's talents are very deservedly looked up to by the public, of whom he has obtained great credit and confidence, as a general physician, and to whose accurate knowledge of diseases, and their cure, I myself do pay a due deference. Respecting Doctors Clarke and Croft, I know them to be men of ingenuity and great abilities in the obstetric art. I have not so mean an opinion of them as to conceive, nor can I suppose, that these gentlemen, however well acquainted they may have been with the facts inserted in the book, could be acquainted with the intended title page. Dr. Gower, whom I have the honour of knowing, an independent man, and a good physician, was, in my opinion, as little acquainted with it, as the other three. Although we may differ in opinion respecting some points, yet we must agree in the principle and general doctrine: let us, therefore, support our arguments with truth and justice; or, like men of sense, and good members of society, give up the contest, without endeavouring to shelter ourselves under the banners of falsehood and dissimulation.

CASE III.

Mr. JOHN MEREDITH, Shoemaker, No. 3, Richardson's Buildings, Kensington, had his child in-

inoculated with the cow-pox, at the Vaccine Institution, Castle Street, Leicester Fields, in October, 1803. It caught the small-pox afterwards, of which disease it died, on the 20th of July, 1804. The unfortunate parents of this child seemed, when I called upon them, extremely affected. They both confessed, that "if it had not been cow-poxed, we meant to have had it inoculated in the regular way, then it would have been safe; but now we have lost our only child."

CASE IV.

Mr. LINNARD, No. 2, Grafton Street, Soho, in the parish of St. Anne, had his child inoculated with the cow-pox, in November, 1802; and it caught the small-pox, of a child in the same house, in October, 1804.

CASE V.

Mr. JOSEPH BRYANT, No. 11, Boswell Court, Queen Square, had one of his children inoculated, with the cow-pox, at the Small-Pox and Inoculation Hospital, in the beginning of the year 1802, and the gentleman who inoculated it pronounced that it was perfectly secure from the natural infection; but the child caught the small-pox at the latter end of the same year. This case was seen by several medical gentlemen in the neighbourhood, all of whom declared it to be the small-pox.

CASE VI.

Mr. THORN, Upholsterer, Bear Court, Lincoln's Inn Fields, had a child inoculated at the hospital, in April, 1804, with the cow-pox. In November last, it caught the small-pox, which began to

turn on the 9th day of the eruption. This was also pronounced by several professional gentlemen to be the small-pox.

CASE VII.

Mr. PERCIVAL, Holywell-Street, Strand, now gone to live at Gosport, had a child inoculated with the cow-pox, by Dr. Pearson, about three years ago, who assured the parents that it had taken proper effect; but in the same year, the child died of the small pox. This case was seen several times, by Mr. Radnor, an experienced apothecary, Surry-Street, Strand, who pronounced it to be the small-pox.

CASE VIII.

Mr. WOOD, at No. 39, Great St. Andrew-Street, Seven Dials, had two children inoculated with the cow-pox matter, at the Small-Pox and Inoculation Hospital, in May, 1803, and the matter inserted in the arm took proper effect. One of these children, caught the small-pox, about twelve months afterwards; but the other child has hitherto escaped the infection. It is worthy of remark, that neither of these children was affected with either eruption or ill-health, in consequence of vaccination; which holds good with regard to what I have before observed, that those children who have not been affected with any subsequent complaint are the most susceptible of variolous infection.

*Cases extracted from a Pamphlet, published by
Mr. Goldson, Surgeon at Portsea, Hants.*

CASE IX.

Mr. GRANT, at that time residing at Deptford, had one of his children, about four months old,

vaccinated, about the month of October, 1800, by Mr. Paytherus. Two years afterwards, Mr. Goldson vaccinated another of them, which went through the disease, perfectly to his satisfaction. These children were afterwards inoculated with the small-pox matter, on the 19th of December, 1803, by Mr. Goldson. The infection in the younger, took no effect, but in the elder it succeeded, and the child had evidently the small-pox. This is not only asserted by Mr. Goldson, but testified by several medical gentlemen in the neighbourhood.

The following observation of Mr. Goldson's, respecting the small-pox inoculation, not taking effect *immediately* after vaccination, is very accurate and judicious.—“ I will further venture to appeal to the candour of the most zealous promoters of the cow-pox, whether it be not very rare, if ever it do happen, when inoculation takes place, at an early period of vaccination. I cannot recollect that Dr. Jenner has noticed a single instance, among the numbers which were inoculated in the early part of his practice, when it was done early, in order to ascertain the extent of its prophylactic powers. I never saw an instance of it myself, in any of those whom I have inoculated, at an early period after vaccination; nor can I learn, that it has ever occurred to any gentleman within the circle of my medical acquaintance.”

CASE X.

A daughter, about four months old, of Mr. WORSFOLD's, a Publican in Havant-Street, Portsea; was vaccinated, by Mr. Goldson, Surgeon at the same place, on December 10, 1800, and the pus-

tule on the arm appeared perfectly satisfactory, and the marks of absorption, both from the areola and tenderness in the arm pit, were as evident as they usually are in children of that age.—She was often known, to be with children labouring under the small-pox, without catching that disease; and it was supposed, that she would never become susceptible of the variolous infection. This child however, caught the small-pox of her brother, who was inoculated, by the same gentleman, with variolous matter, on the 6th of February, 1804. On the 4th of March, seven distinct eruptions appeared on the face, neck and arms, after having a fever and pain of the head, for several days. These symptoms were so characteristic of the small-pox, that neither Mr. Hill, Mr. Seeds, nor Mr. Weymouth, three respectable practitioners in Portsea, who saw the child with Mr. Goldson, hesitated to pronounce this eruption the small-pox, which she had received from her brother.

CASE XI.

Mr. LUSCOMBE, keeper of the Gaol at Portsmouth, had a daughter inoculated with the cow-pox matter, in the latter end of January, 1801, by Mr. Goldson. The progress of the arm was regular, and carried with it every mark of absorption, and no doubt was entertained of its having properly taken effect.—She has been since in situations, where she must have taken the small-pox, if the constitution had been susceptible of receiving it.

On the 10th of April, 1803, another of their children was inoculated, by the same gentleman, with the small-pox matter, which produced nearly

three hundred well matured pustules. The other child, who had been inoculated with the cow-pox matter, upwards of two years before, was kept constantly with her, without taking any effect whatever; but an eruption appeared on her face, neck, and shoulders, on Monday the 9th of April, 1804, which proved to be the small-pox, caught in the school, where several other children had caught it, one of whom died of the confluent sort. This important case, which so materially militates against the cow-pox, was seen by Dr. Kerr of the Military Hospital, Dr. Thompson and Mr. Stevenson of Haslar, Mr. Rickman of the Marine Infirmary, Mr. Taswell and Mr. Merritt of Portsmouth; and by Mr. Gasclee, Mr. Hill, Mr. Seeds, and Mr. Weymouth of Portsea, all of whom expressed themselves perfectly satisfied of its being the small-pox.

Four lancets of matter were taken from the above child, about the end of the fifth day, by Mr. Seeds, Mr. Weymouth, Mr. Cooper, and Mr. Goldson himself, with which four children were inoculated by these gentlemen.

The child which Mr. Goldson inoculated had convulsions, fever and rash; but not more than ten eruptions appeared, four of which matured, and went off on the seventh day.

About fifty eruptions took place on the child who was inoculated by Mr. Weymouth, which matured kindly, and went off about the same time.

The child on which Mr. Cooper tried the matter had above one hundred pustules, which went off, also, on the seventh day.

Mr. Seeds' patient was a plethoric child, had a

considerable fever, accompanied with an extensive rash, and more than one thousand pustules, some of which turned on the 9th, and others on the 10th day. Mr. Goldson remarks, that each of the children's arms, in these cases, exhibited as strong specimens of the inoculated small-pox as he ever witnessed.

In addition to the cases, which came immediately under Mr. Goldson's observation, he has adduced the following, with which he was favoured by Mr. Weymouth, on whose accuracy, he says, he can fully depend.

CASE XII.

Mr. DUNNING's child, of Portsea, was inoculated with vaccine matter, on the 18th of March, 1801, by Mr. Weymouth. Every appearance on the arm, as described by Dr. Jenner, took place, and Mr. Weymouth had no doubt whatever of the child's having had the cow-pox. About twelve months afterwards it was inoculated with the small-pox matter, which took effect, only one pustule which matured. Mr. Weymouth tinged two lancets in it, with which he inoculated two children, both of whom had the small-pox in the most satisfactory manner.—Several of the most respectable practitioners, in Portsmouth, and Portsea, were witnesses of the case at the time.

CASE XIII.

On the same day, 18th of March, 1801, Mr. Weymouth likewise vaccinated a child of Mr. Light's, in the same house. During the progress of the disease, the child was visited by Mr. Fitz-

maurice, surgeon, at Haslar, who considered it a case very strongly marked. He took matter from the arm, with which he vaccinated two patients, both of whom, some months afterwards, resisted the infection of the small pox.

Mr. Weymouth inoculated this child with some small pox matter, on the 4th of May, 1802; the arm took extremely well, and the pustule went on progressively in a very satisfactory manner.

CASE XIV.

CLARKE, a marine, at Haslar, was vaccinated by Mr. Rickman, on the 4th of November, 1800. There was no apparent reason to suppose that this person had not received the infection properly, as no difference could be observed in the appearance of the arm, or in the symptoms, from any of the former patients—five other marines he had before inoculated.

Clarke, since the time he was vaccinated, had been on a voyage to the West Indies, from which he returned with a chronic dysentery. So soon as he recovered, Mr. Rickman inoculated him with small-pox matter, on the 24th of March, 1802; he sickened on the 1st of April, and was, in consequence, sent to Haslar, where he was under the care of Dr. Hope, who, on the appearance of the eruption, invited the medical gentlemen in the neighbourhood to see him. About the 4th day from the commencement of the eruption the pustules matured, which were very numerous; and the disease was afterwards clearly demonstrated, to the satisfaction of every body, to be the small-pox; for the matter taken from him produced evident proofs in several instances.

CASE XV.

This case was communicated by Dr. Hooper to the Society of Physicians and Surgeons.

The following very important fact, proves that a person having had the cow-pox, may, at a distant period, be susceptible of the action of the small-pox poison.

“ THOMAS and WILLIAM PEWSEY, two brothers, when in the service of Mr. Pennygar, farmer, of Cow-wick Farm, near the Devizes, were seized with eruptions on different parts of their bodies, from which they suffered very considerably, in consequence of milking some cows affected with a pustular disease. It was very generally reported in that part of the country, that having the cow-pox was a certain security against the small-pox. The two brothers, therefore, exposed themselves repeatedly to the infection of the small-pox, without any apprehensions of catching it. Five years expired; at the end of which period Thomas was taken ill, and died of a confluent small-pox. William Pewsey has since been inoculated twice with the small-pox matter, but is not susceptible of the disease. The following is the statement of Mr. Holyoak, brother in law to Thomas Pewsey, viz—That Thomas and William Pewsey had the cow-pox at Cow-wick Farm, about five years ago—that upon his brother Thomas coming to live with him at Oxford, he was frequently urged to be inoculated for the small-pox; to which he never would consent, saying, that it could not hurt him, for that he had had the cow-pox—that his brother told him, that when he had the cow-pox, he suffered nearly as much as those who have the

small-pox—that he had several pocks, which were larger than those of the small-pox, and which ended in a brown crust. That his brother Thomas had been, to his knowledge, frequently, with persons labouring under the small-pox, which made the family, at length, believe what he said concerning the cow-pox preventing a person from having it; and that two months before his last indisposition, he continually nursed his three children, who then had the small-pox from inoculation.” Here is another very strong proof that the cow-pox renders the system insusceptible of the small-pox for a time only.—I wish the particular period could be ascertained in each individual.

CASE XVI.

Is a note of Dr. John Sims on this subject, inserted in the eighth number of the Medical and Physical Journal, where he states as follows: “I have received a letter from Mr. Cook, surgeon at Barking, informing me, that MARTHA ANGEL, who now lives in the capacity of cook to Mr. Downing, Hatton Garden, had the cow-pox very severely, being very full of pustules, and exceedingly ill, at Highworth, in Wiltshire, in the year 1760. Thirty years afterwards, in the year 1790, she was inoculated, and had the small-pox in the usual manner.”

CASE XVII.

Dr. Harrison, of Horncastle, in a letter to Sir Joseph Banks, mentions the case of a child, five months old, who was inoculated with vaccine matter. “The progress of the pustule, which succeeded, was unusually rapid, and was characterised by an

areola that was neither extensive nor circumscribed. With matter taken from the arm of this child the vaccine disease was regularly propagated through several subjects, all of which were exposed to variolous inoculation, six months afterwards, together with the child from whom the matter was procured. They all escaped the infection, except the child herself, who had a mild small-pox, with a moderate eruption. Hence it appears that she communicated a security against the small-pox to others, although she herself remained liable to its influence."

CASE XVIII.

Dr. Woodsorde, of Castle Cary, has adduced a case that seems to militate against the permanently preventive influence of the vaccine disease. He observes, that he lately attended a Mrs. DREDGE, aged 55 years, whom he found labouring under small-pox of the distinct sort, which she caught from a servant boy living in the house. She informed him, that she did not expect this disease, since she had taken, twenty-eight years before, the cow-pox, from milking cows affected with the same; and her sister, also, suffered severely from the same cause. The cow-pox, she remarked, was very severe; numerous pustules arising on the hands and fingers, with tumour in the armpit, and a great degree of fever. Sixteen years afterwards she was much exposed to small-pox in her own family, having children ill of it both, naturally, and from inoculation, whom she constantly attended, but escaped the infection. The sister was in like manner exposed to variolous infection, but without receiving it.

*The following case was communicated to me by
Dr. Smyth Stuart.*

CASE XIX.

“ SIR, *Billericay, Essex, Dec. 11, 1804.*
“ According to your request I send you inclosed the case of a child of mine, who was inoculated with the cow-pox, which proved fatal to the poor infant. During the time the cow-pox inoculation was introduced, and brought into general practice, I was abroad, and having heard, repeatedly, the most favourable and flattering account of its success, was induced, when I came home, to have my child vaccinated.

“ On the 8th of April, 1802, the child, twenty-two days old, being in perfect health, was inoculated with good laudable vaccine matter, from a very healthy subject, by Mr. Canadine, a very respectable and experienced surgeon, of East Lane, Walworth. The pustule on the arm seemed, in every respect, extremely favourable. It inflamed and suppurated agreeably, and, on the ninth day, it had every satisfactory appearance, according to Dr. Jenner's description. But, on the 14th, the inflammation on the arm returned, and extended to a very alarming degree, accompanied with hard, painful tumours and blotches, which terminated in obstinate phagedenic sores and ulcers, resisting every internal medicine, as well as all external applications. The poor pitiable infant was constantly in a state of restlessness, owing to most excruciating pain, medicines not having the smallest effect. Having been in great and general practice myself, from the appearance of the eruption, and its obstinacy in

respect to cure, I was led to consider the cow-pox virus as possessing a specific scrophulous nature, or as an infection of the same deleterious quality : and having experienced the good effects of mercury in a vitiated state of the blood and other juices, I was determined to make a trial of this medicine, as most likely to eradicate the poison out of the system. It was, therefore, applied by friction to the child, and given internally to the mother, who suckled it with a good breast of milk. By this method the violence of the symptoms considerably abated. Although the child was much relieved by the use of mercury, yet it constantly suffered more or less from pain, intermitting fever, and restlessness. The mother took it to some distance into the country. Soon after, the violence of the above symptoms returned, and the child died in the most agonizing pain, on the 1st of October, 1802.

“ This circumstance of my own child induced me to entertain the most unfavourable opinion of the vaccine virus, and I minutely enquired into the nature of it: when I was informed that, in all cases where the inflammation returned, it either terminated fatally, or rendered the person a miserable object ever afterwards. I found, also, many shocking cases which very much militated against cow-pox inoculation, from the violence of the complaints which succeeded in consequence; and numerous cases where the small-pox happened to many persons after vaccination; some of whom had it very bad, and others died. I send you the above case, from a desire of being serviceable to the public, and you may make use of it as your own discretion may direct. Should it contribute towards exploding

vaccination, or obviating any further injury being done to the public; I shall feel myself satisfied in having done my duty by making known such a case through the medium of your publication. I sincerely wish every success may attend your endeavours in so laudable and spirited an undertaking.

I have the honour to be,
Your most obedient humble servant,
Ferd. Smyth Stuart."

CASE XX.

" Mr. HALL, in Thunderbolt Alley, Clapham, had two children inoculated for the cow-pox, by Mr. Buckland, surgeon, of the above place. One of these children, James, eleven weeks old, was inoculated October 22, 1801, and it was acknowledged that the matter produced the desired effect on the arm. On the ninth day he had every appearance of doing well; but on the thirty-first, the ninth day from the insertion of the matter, the inflammation in the arm increased, with alternate flushings; the child became feverish, with an affection of the head, and other symptoms of general irritation. On November 2, the inflammation reached from the shoulders to the fingers, extending over the breast and back, proceeding downwards, and after covering the body, extended nearly as far as the knees; but before it reached these parts, the child died on the 16th instant. This child was of a weakly habit, but in good health. On Thursday, the 13th, before it died, the surface of the body became discoloured yellow, &c. The inflammation was of the erysipelatous kind."

This child, no doubt, died of what is called a putrid or typhus fever, owing to the matter being taken, after it had undergone a putrefactive fermentation.

CASE XXI.

“ WILLIAM HALL, brother to the above child, was inoculated from him, on Friday, the 31st instant. On the following Thursday the child was taken ill, had fever, affection of the head, and general pain throughout the body, particularly in the inoculated arm. The inflammation extended all over the back, and from the shoulders to the loins; it then abated, left him for a few days; after which, it returned on the shoulder, and went down the arm. Each of the places scratched by the lancet became bad, and broke into one wound. The child is now well, but weak. The ulcerations were much relieved by carrot poultice, applied by Mr. Buckland.”

CASE XXII.

“ SARAH ANNE KEENE was inoculated from James Hall, in both arms. The progress of the pock was exactly the same as William.”

CASE XXIII.

“ HANNAH BAKER, aged about thirty-seven, was inoculated from James Hall, October 31. She was very ill for three days, and much indisposed for three weeks. Her arm was supported by a sling for nine or ten days.”

CASE XXIV.

“ ELIZABETH SKINNER, aged three years, was inoculated from James Hall. The inflammation

extended to the shoulder; the arm was in a very bad state for five weeks, and the child has been ill ever since."

CASE XXV.

"WILLIAM SKINNER, nine weeks old, and brother to Elizabeth, was inoculated the same day with Willlam Hall, viz. October 31, 1801. He has been ill ever since, and continues so now."

CASE XXVI.

"JAMES SWINTON, eighteen weeks old, was inoculated in both arms, November 7. This child had some little eruptive fever; the left arm swelled, inflamed, and had blisters for fourteen days after the inoculation. The child is labouring under violent catarrh, and disposition to pulmonary inflammation. The right arm and hand are also swelled, and are much larger than the other, though nothing to what they have been."

CASE XXVII.

Mr. Maddock, a surgeon of Nottingham, relates the following cases and observations on the subject.

"On the 22d of October, 1800, I inoculated Mr. HULSE's child, aged six months, with matter from the arm of a child, who had the disease very favourably. Until the eighth day, appearances indicated a mild disease; but on the ninth, the parts surrounding the incision began to inflame, and became very hard; the inoculated part, degenerated into an ulcer, and at this time, much derangement of the system took place, as fever, sickness, and great inquietude. The parts changed their appearances very little until the sixteenth day, when the

inflammation extended to the shoulder and hand, on the fingers of which, several vesications appeared. When these parts became the seat of disease, the inflammation completely left the inoculated part, and the ulcer acquired a healthy aspect. As the inflammation left the hand and shoulders, it spread to the back, breast, and face, and after remaining there about twenty-four hours, it disappeared, and attacked the other side of the back and breast, and afterwards the arm and hand; but before it became so violent as on the side first affected, the child was exhausted, by want of rest, and from excessive irritation, died on the twenty-sixth day after inoculation. A few weeks afterwards, another case occurred, which, from its near resemblance to this, convinced me they were the consequence of the cow-pox."

CASE XXVIII.

"On the 27th of November, I inoculated a very healthy child of Mr. GREEN's, of Linton Abbey, aged five months; from the arm of a child equally healthy. Previously to the eighth day, there was no appearance which indicated any thing unfavourable. On the ninth day, the inflammation on the left arm spread very rapidly, and, before the next day, it occupied the whole arm. By the twelfth day, the inflammation was much diminished on the arm, but it appeared on the back, breast, and face on the same side. After the inflammation had continued on these parts about twenty-four hours, it removed to the right arm, which had scabbed over.

"It extended from the shoulder to the elbow, and also affected the right side of the body in the same

manner that it had the left, and thus affecting different parts of the body for at least five weeks, a small abscess formed in the armpit, on the right side, and the child perfectly recovered. Mr. Green's child was at its mother's breast, and had it not experienced the most unremitting attention, I have much reason to fear the consequences might have proved serious."

The following cases, were communicated to the editors of the Medical Review by Mr. Morrison, surgeon, Belville Place, Chelsea.

CASE XXIX.

" On Tuesday, Oct. 12, 1802, I inoculated two Children, daughters to Mr. New, Don Saltero's coffee-house, Chelsea; one of them near five, the other two years and three months old, and both in perfect health, with vaccine matter, taken from a healthy subject, and the disease peculiarly favourable. The infection took place, and appearances went on in the usual way with both till the 19th, and, with the youngest, continued so to do through the whole progress of the disease.

" Wednesday the 20th, the eldest had passed a very restless night, and had complained much of pricking pains all over her body. She had now considerable febrile heat, dry skin, and quick pulse.

" Thursday the 21st. The febrile symptoms had increased, and, in addition, the rash above described appeared over the body, attended with great irritation and restlessness. She complained, also, of particular pain in the left leg, which was swelled, and tense round the ankle and upon the foot.

“ Friday the 22d. All the symptoms continued to grow worse. The rash was out very much over the whole body, and the swelling of the leg had extended itself to the calf, which was very hard and tense. On the outside, the leg was more inflamed than on the inside.

“ Saturday the 23d. The pain from the leg had been so great, and the fever so much increased, that she was delirious in the night; pulse very frequent; tongue much parched; skin very hot and dry. The inflammation and swelling of the leg had extended to the knee.

“ Sunday the 24th. The inflammation and swelling of the leg had spread above the knee.

“ Monday the 25th. The fever, restlessness, and delirium, had increased since yesterday; the leg was enlarged prodigiously, and hard, hot, and tense, the child continually screaming from the violence of the pain. Her whole body and extremities were covered with the rash, which now put on more of an erysipelatous appearance.

“ Tuesday the 26th. The pain was intolerable, and one of her hands enlarged, and the fingers tumid.

“ Wednesday the 27th. The swelling in the leg and thigh still, however, remained prominent, and somewhat discoloured above the ankle; the countenance pallid; the pulse not to be numbered; the rash of a darker hue; the tongue harsh and brown.

“ Thursday the 28th. The rash disappeared almost entirely; the swelling in the leg and thigh much diminished, and softer; both hands were now swelled and stiff; oppressed respiration; pulse in-

terminating; yet the agony of the pain not in the least abated, and the child's expression of her sufferings, in this dying state, was beyond all description: she lived till twelve o'clock in the night."

Mr. Morrison further observes, that he had experienced some trouble from a rash, which appeared eight or ten days after inoculating with the cow-pox matter, and he mentions two cases where it had occurred more particularly violent, in one of which "a child of Mr. ROBERTS, morocco leather manufacturer, Battersea; the itching attending the eruption, was to that intolerable degree, that the patient hardly rested, night or day for a fortnight. The other patient (a child of Mr. Mallison's, Prospect-Place, Chelsea) was similarly affected, although not for so long a time."

THE CONCLUSION.

The first circumstances that induced Dr. Jenner to take notice of the cow-pox, were the following:—About the year 1775, he practised small-pox inoculation in Gloucestershire, and he observed, that, among those persons whom he was frequently called upon to inoculate, many resisted the infection, notwithstanding every effort, owing to their having previously undergone a disease, contracted by milking the cows that were affected, with a peculiar eruption on the teats, called the cow-pox. He found, nevertheless, that on some of those who had undergone the cow-pox inoculation, with the small-pox, took proper effect. This led him to

an investigation, by which he ascertained, that the cow was subject to two species of eruptions on her teat, one of which, he denominated the true, the other, the spurious cow-pox; that they both were capable of communicating sores to the hands of the milkers, but that the spurious sort possessed no specific power over the constitution.

Scarcely had he discovered this difference in the disease, when another difficulty of far greater magnitude arose; for it was found, that a person who had milked the cows, under the cow-pox, and had, thereby, apparently, gone through the disease with others, was afterwards, liable to receive the small pox.—This observation was confirmed, on enquiry of the neighbouring practitioners, who all concurred in representing the cow-pox as a very inadequate security against the small-pox.

Besides these circumstances, he discovered that the matter from the pustules, on the teat of the cow, produced inflamed spots on the wrists (of the milkers) and joints of the fingers, swellings in the arm-pits, and that symptoms of a violent fever took place; such as quick pulse, shiverings succeeded by heat, with general lassitude, pain about the loins and limbs, and vomiting. The head was painful, and the patient, now and then, even affected with delirium.—These symptoms, varying in their degrees of violence, generally continued from one day, to three or four, leaving ulcerated sores about the hands, which, from the sensibility of the parts, were very troublesome, and commonly healed slowly, frequently becoming phagedenic.

After meeting with these difficulties and ambiguities, and perceiving both the partial and general

malignant effects of this virus on the milkers, with the uncertainty, at that time, of the change, which, by inoculation, it would produce in the human system ; I should have imagined that Dr. Jenner, would have been totally prevented from commencing such an innovation. Perhaps, had he been better acquainted with the true mode of small-pox inoculation, prudence would have induced him to relinquish, for ever, a practice, replete with such obscurities, as render the practitioners liable to constant mistakes, and the public to reiterated disappointments ; at the same time promising no prospect of success, or security. He could not be justified, either by experience, or science, in pursuing such a measure. The small-pox inoculation, whatever impediment it might have met with at its introduction, owing, at that time, to a want of experience in the practitioners, is now, in consequence of the great improvement that it has undergone in its treatment, rendered a mild and harmless disease ; and has stood the test of nearly a hundred years, in this country, as a certain security against the natural small-pox. Yet in spite of all difficulties, in spite of all ambiguities, in spite of its malignant effects, and even, notwithstanding the plea of the human constitution ; Dr. Jenner has pursued his favourite plan of vaccination with the same energy and zeal as though he had been sanctioned by the experience of a century. Whereas, had he attended to the cool dictates of reason, he must have declined it.—Had he but seriously reflected upon the specific nature of the cow-pox virus, and endeavoured to trace the grease of the horse, “ whence it sprang,” up to its true origin ; previously to engaging in so momen-

tous a concern ; it would have required but a small share of abilities to have predicted the dreadful consequences that have since ensued ; and I am sorry to have the opportunity of observing, that the result of the industry, which he has shewn, in ingrafting an unknown disease into the human constitution, neither merits private regard, nor public approbation.

The following account, respecting vaccination, is extracted from a pamphlet, entitled, “ Reports of a Series of Inoculation for the Variolæ Vaccinæ, or Cow-Pox,” by Dr. Woodville, Physician to the Hospital for the Natural Small-Pox and Inoculation.

“ It appears that, out of about 500 cases of the inoculated cow-pox, one proved fatal, and, in some others, the disease, from the number of the pustules, was of formidable severity : while, on the other hand, a very large proportion of the patients were scarcely disordered from the inoculation, and had no pustules. But it must be acknowledged, that, in several instances, the cow-pox has proved a very severe disease. In three or four cases, out of 500, the patients have been in considerable danger, and one child actually died under the effects of the disease. Now, if it be admitted, that, at an average, one of 500 will die of the inoculated cow-pox, I confess I should not be disposed to introduce this disease into the Inoculation Hospital, because, out of the last 5000 cases of variolous inoculation, the number of deaths had not exceeded the proportion of one in 600.”

These reports evidently prove, that, instead of Dr. Woodville being sanctioned in pursuing vacci-

nation any longer, he was truly reprehensible for so doing. He certainly should have rested satisfied, that no private or public advantage would possibly accrue from persisting in such a practice. The result of his own experiments, I should have imagined, would have been sufficient to induce him to relinquish and explode the cow-pox, for ever, from the hospital. Had he done this, he would, in a great measure, have exculpated himself from that public censure to which he had so greatly exposed himself, in admitting a practice into the hospital, of which no rationale had been given. But, on the contrary, so far from his desisting at so favourable a juncture, he persisted in trying experiments, seemingly, with the same zeal as though he had met with the utmost success. Besides, he must have been deficient of observation not to have discovered, that the place was exceedingly ill calculated to give cow-pox inoculation a fair trial; which it most certainly was, owing to the air being always contaminated with the contagious effluvia, constantly arising from the patients, then under the natural small-pox in the same house; a circumstance that accounts for the great number of pustules which came out in different parts of the bodies, of more than half of those persons who were vaccinated at the hospital; or why should such an event take place there only? Perhaps it would be acceptable, to an intelligent reader, to carry our explanation a little further upon this head, and we may very fairly be allowed, on this subject, to argue, *a priori*, thus;—The cow-pox virus is a longer time in being absorbed into the blood than the matter of the natural small-pox, because the

latter is conveyed by the medium of the air into the lungs, where it is absorbed or admitted immediately into the blood; but the former is inserted into the arm, and, therefore, it is a longer time in being absorbed and conveyed into that vital fluid; and as two specific diseases cannot take place at one and the same time, the small-pox having the priority, the blood unites with it, and refuses the cow-pox virus. At the same time, it is worthy of observation, that the cow-pox will take proper effect on the arm, but not in the general habit. It is admitted by the vaccinators themselves, that the vaccine virus will produce a pustule, from which matter may be taken, on the arm of a person who has even been strongly marked with the small-pox. A question arises here, how has it happened, that all the patients were not affected with pustules? This I must leave for the Doctor himself to answer.

Quere, Should not Dr. Woodville have published the second volume, agreeably to his own promise, of the History of Inoculation? and should he not, in the same volume, have pointed out the great improvements that the small-pox inoculation had undergone, the great success with which it had been attended, and the numerous advantages the public had derived from it, and compared its benign effects with the malignancy of the variolous disease? Candour and justice should certainly have influenced his conduct to have acted agreeably to those positions, previously to his admitting the cow-pox into the hospital, in justice to the subscribers, and in honour and defence of that public institution to which he is a physician, and which I maintain to be one of the best in Europe. Had he

produced a narrative of these facts, it would have convinced the faculty in particular, and, consequently, the public in general, that an innovation in the practice of inoculation was not only unnecessary, but highly improper.

Should he not have endeavoured to trace the efficient cause of the cow-pox to its true origin, and given, if possible, the rationale of the disease? This he, certainly, should have done, previously to his introducing an unknown and malignant virus into the human constitution, as a substitute for the small-pox inoculation; a mode which has been practised for nearly half a century, with the utmost success, at the hospital.

Has he not lessened his own dignity, as a physician to the institution for inoculation, by admitting the practice of vaccination? Has he not, also, injured the deservedly high reputation of the hospital, by the same means; not only in the opinion of the people of this country, but, also, those of foreign climes?

Can the vaccinators, who have been so zealous in the cause, secure the constitution, at the same time that they inoculate with the cow-pox virus, from its pernicious effects, or dreadful consequences? or can they promise, that this matter shall not produce a scrophulous disease in the human system, in any form whatever; such as either glandular swellings, scabbed head, swelled lips, or any ill-conditioned humour, affecting different parts of the body? Most certainly they cannot. I defy them; because they have not ascertained the true source of the disease; and therefore, with truth, they cannot assure the public, that the matter with

which they inoculate shall not be taken from a pustule which originated in scrophula. Hence the impropriety of pursuing such an intricate, destructive, and (I hope I may be allowed the expression) infamous practice: a practice that will redound to the dishonor and disgrace of the vaccinators, so long as that name can be retained in the memory of man.

Have they been supported in their enthusiastic conduct, either by experience, analogy, or a knowledge of the proximate cause of the disease? I imagine not; for had they known better, they, no doubt, would have acted with more propriety and circumspection; and had they been in possession of these circumstances to guide them, they could not then have betrayed such a deficiency of judgment. I most earnestly recommend these gentlemen, who, through their zealous endeavour to do good, have done a great deal of harm, to read Dr. Huxham's preface to his Essay on Fever: perhaps, it may somewhat contribute to check their *ingrafting career*. "As for those who will neither read nor reason, but practice by rote, and prescribe at a venture, I must seriously advise them, at least, to peruse the sixth commandment."

This attempt to resist the further progress of the malignancy of the vaccine virus, or poison, of which I have set the example, will probably be prosecuted by a more able pen, until the pillars of the Jennerian Institution moulder into dust, and the Hospital for the Small-Pox Inoculation recover its original reputation and dignity, and restore to the public those advantages, of which they have so long been deprived.

OBSERVATIONS

ON

INOCULATION of the SMALL-POX.

THE great success of inoculation, as well from the mildness of the symptoms, as its certain prevention of the natural small-pox, evidently demonstrates that there was no necessity to forsake a practice, which had been established and approved for nearly these one hundred years past, to the general satisfaction of the public. The natural small-pox is a disease of a malignant nature, while that which is produced by inoculation, has been found so extremely mild that the constitution has been very little incommoded by it; no sufficient reason, therefore, could be assigned for either supplanting or consigning it to oblivion, as these vaccinators and innovators, for want of knowledge, have endeavoured to accomplish, by introducing the cow-pox, the origin of which they have not properly ascertained, nor are the dangerous consequences effectually removed. With this conviction I shall offer some observations respecting the small-pox inoculation, in which I shall point out the mildness of that disease in its progress, and prove that no danger, and even very slight inconveniences, ever ensue from its adoption.

Though no disease, says Dr. Buchan, in the Domestic Medicine, baffles the power of medicine more effectually, than the natural small-pox, yet more may be done to render this disease favourable

than any one we know; all the danger may be prevented by inoculation. It is a matter of small consequence, he further observes, whether the small-pox be entirely extirpated, or rendered so mild, as neither to destroy life, nor hurt the constitution; but that this may be done by inoculation does not now admit of a doubt.

The practice of inoculation was first introduced into Great Britain by the celebrated Lady Mary Wortley Montague, who acquired her knowledge of it during her residence at Constantinople, with her husband, in his embassy from this court. Being convinced of its great advantages in the East, she determined that her only son, then six years of age, should undergo the operation. The consequent disease was very mild, there being about fifteen pustules only; and it is worthy of remark, that this inoculation, performed at Pera, near Constantinople, in the month of March, 1717, was the first that was ever practised upon any English subject.

Lady Mary Wortley Montague's son having been successfully inoculated in the East, she was soon after, upon her return to England, determined, also, to try it upon her daughter, then an infant about three months old; she was, therefore, inoculated in the month of April, 1721, and passed through the disease without a single alarming circumstance.

Notwithstanding the success which attended the inoculation of Miss Wortley, this practice was still viewed in such a dangerous light that it was thought necessary for several culprits, who had forfeited their lives to the laws of their country, to be inoculated, upon condition of receiving

full pardon, by the royal prerogative. They very readily consented, and accordingly the operation was performed on six criminals at Newgate, on the 9th day of August, 1721. Thus they obtained a remission of the sentence of the law on very easy terms; for on the one, on whom the operation produced the greatest crop of pustules, the number did not exceed sixty.

These experiments, no doubt, tended much to the encouragement of inoculation. They, however, were yet considered as still too few to ensure the general safety, and demonstrate the valuable advantage of the practice.

Early in the spring of the year 1722, inoculation began to be adopted in various parts of England; and, by order of Her Royal Highness the Princess of Wales, was practised upon several charity children. The success with which these trials were attended induced her Royal Highness to cause Princess Amelia and Princess Carolina to be inoculated on the 19th of April, 1722. Both these younger branches of the royal family passed through the small-pox in a very favourable manner.

Although the advantages of inoculation were great, as it gave every prospect of recovery, in this, otherwise, often fatal disease, and security in future, removing all further apprehension; yet was its first introduction, from the opposition it experienced, extremely slow.

At length, however, it triumphed over every obstacle, under the auspices of royal patronage; and their Royal Highnesses Prince Frederick and Prince William were both inoculated. The former, who resided at Hanover, and was then eighteen years of

age, submitted to be inoculated on the first of May, 1724, and the event was extremely favourable; his royal highness not having more than from eleven to eighteen pustules. The latter, who was inoculated about the same time, in England, likewise passed through the small-pox, without any alarming or even troublesome symptoms.

Respecting the **TIME OF LIFE** when inoculation should be performed.—It should be done, from two, to five or six months old, before dentition commences, or not till two or three years after dentition is compleated. Indeed, it is now established by experience, that inoculation produces so very mild a disease, that it may be safely performed upon people of all ages, even to the 70th year. While I was Apothecary to the Small-Pox Hospital, several elderly persons were inoculated, who had the disease very mildly, and one woman in particular, between sixty and seventy years old, had only a few inflammatory symptoms, which continued not longer than one day, being less than a very slight cold would have produced. Dr. Dimsdale, who has written ingeniously on inoculation, remarks, that, it is so mild a disease, that it may be safely performed, even during pregnancy:—This I have seen verified many times at the hospital.

With regard to the **SEASON OF THE YEAR**, generally speaking, those seasons should be made choice of, in which people enjoy the best health.

In my opinion, an improvement might be made respecting inoculation, by paying due attention to the particular constitution of the person to be inoculated, and the season of the year in which it is to be performed; the latter of which should be

adapted to the former, for instance; children of a sanguine temperament, (which is distinguished by pale or reddish hair, soft flesh, full habit, blooming or ruddy complexion, quick sensations, their skin generally more warm, their pulse quicker, and their secretions more uniform than the phlegmatic constitution, and a predisposition to inflammatory diseases,) should not be inoculated in the winter, or spring of the year, when this constitution is more disposed to inflammation, than at any other season; because it must naturally be expected, that the inflammatory symptoms will be higher, and the pustules in greater number, than if the matter had been inserted at a more favourable season of the year, such as the latter end of summer, a period when inflammatory diseases are not so frequent as in the winter and spring.

The next temperament that I shall propose to be attended to, is the phlegmatic, which is known by a smooth, pale and cold skin, a relaxed system, great disposition to fatness, small pulse, and a large proportion of water in the blood, the circulation languid, the digestion, secretions and excretions slow. With regard to this temperament, it is more disposed to diseases of a cold kind, such as dropsies, nervous and putrid fevers; and to those complaints that originate in debility. I would recommend a child of this constitution to be inoculated at the beginning of summer, because at the more advanced season, or at the latter end, or in autumn, the state of the air favours this particular disposition, and renders it more liable to those diseases, that are peculiar to its own temperament, and would consequently, render the concomitant symptoms that attend inoculation, more violent.

The third temperament is the melancholic (a predisposition entitled to peculiar notice, on the subject of inoculation) which is distinguished, by a coarse, dark, and sometimes swarthy complexion, dark or black hair; tense fibres, languid circulation, the blood generally dense, the digestion slow, the secretions in small quantities, and frequently obstructed from trivial causes. This temperament predisposes to obstructions of the viscera, particularly the liver. A person of this description should be inoculated in some of the spring months, or at the beginning of summer, because the disorder will be more unfavourable in autumn, when the air is generally moist and foggy, and less elastic; besides, the action of the liver being greater in summer and autumn, than at any other time of the year, and bilious and putrid disorders more frequent, especially in this constitution, at those seasons; therefore, it would be preferable to inoculate such, at the times just mentioned.

Authors in general have described a fourth temperament, namely, the bilious, which being so very similar to the melancholic, and predisposing to nearly the same complaints, I think it unnecessary, so far as these remarks respect inoculation, to say any more on the subject. But, perhaps it may not be improper to observe, that a difficulty may sometimes arise, to those, who have never turned their minds to this doctrine, in distinguishing these temperaments; owing to their being in some persons, less strongly marked than in others, and sometimes blended together; but, to a minute observer, they in general appear evidently enough to direct an accurate practice. This is a doctrine, which,

were it attended to, and properly established, would be of infinite service ; not only in inoculation, but in directing proper medicines for diseases in general ; and this doctrine of the temperaments, was what the antients paid great attention to in curing maladies, but it has been much neglected by the moderns. Wherever the parents of the children have given me an opportunity of reducing these observations to practice, I have good reason to believe, that it has been attended with great success, in rendering the disease much more mild.

Had these peculiar circumstances, respecting the predisposition to diseases in general, which I have suggested, been properly attended to by practitioners, inoculation, in my opinion, would have received a very considerable improvement ; and had the same gentlemen, who have made the present innovation, endeavoured to have lessened the violence of the disorder, by these means and others, which might present themselves (for one improvement generally points out the road to another) instead of introducing a matter of so malignant a tendency into the system, they would have rendered themselves more useful members of society, and conducted themselves more like men of science ; the public would have had reason to have treated them with every mark of gratitude and respect ; and they would never have imagined it necessary to have substituted such a disease as the cow-pox. The health of children would not then have been undermined, nor harassed with subsequent complaints, as is the case with most of those who have been vaccinated with that virus or poison, nor the parents of those children put into a state of constant fear and anxiety. — I shall now return to my subject.

With respect to PREPARATION, our view should be to bring the patient to the most perfect state of health. Should the person intended to be inoculated, have the inflammatory diathesis, which will sometimes be the case, especially in those who have been in the habit of living freely, it becomes necessary to take off, or lessen such diathesis, by gentle evacuations, and total abstinence from animal food, and fermented liquors; but where the habit is delicate or relaxed, a contrary method must be pursued.

After the operation has been performed, it will be necessary, in all cases, to cleanse the primæ viæ from sordes, especially in children, who are frequently troubled with worms, by giving such a quantity of powdered rhubarb, every other morning, as will procure two or three stools through the course of the day, until the eruption appear; and, in an inflammatory habit, a proper quantity of calomel given every day, and a dose of the rhubarb every other morning. This is all the preparation that I have ever found necessary after inoculation, until the commencement of the eruptive fever.—Dr. Archer, who was physician to the Inoculating Hospital, I believe, about thirty years, was accustomed to give, every other evening, from two to four grains of calomel, and a dose of purging salts the following morning, until the eruption appeared, which was the only preparative mode he pursued; and no man was more successful in practice than himself. Had this worthy man, ever ready to do good, and disposed to mitigate the sufferings of his patients at the hospital, which was, apparently, his greatest happiness, varied and adapted his mode of

practice, agreeably to the season of the year, to the state of health, and peculiar constitution of the person, it would have not only lessened, but shortened the duration of the inflammatory and nervous symptoms, which sometimes attend peculiar habits in the first stage of the disease, and, consequently, would have rendered the disease more mild. But, notwithstanding, he pursued this mode of practice, indiscriminately, he experienced great success in the returning health of his patients, and in never meeting, amongst them, with any ill consequences whatever.

I do not mean to reflect on the conduct of Dr. Archer, but I certainly have a right to make my own suggestion, especially as it is likely to be of service to mankind, and is supported by a long series of observations in that particular department of medicine. So far from even wishing to reflect on him, I admired his conduct while living, and now he is no more, I revere his name. He always acted, while I was at the hospital, with the utmost humanity towards the patients, and with the strictest justice towards the charity.

As to the **CHOICE OF MATTER**, it should always be taken from a healthy child, on the fourth or fifth day of the eruption; because old matter, or when even it be kept long on the lancet, has been frequently known to fail, though it has been said to have taken effect after being kept six years: but I recommend it to be inserted, if possible, the same day on which it is taken from the pustule; there will then be no risk of its proving ineffectual. The temperament of the child whence the matter is to be taken, should be as similar as possible to that

of the person to be inoculated. I have good reason to believe that the age of the matter when taken has not been properly attended to, for it has, I have no doubt, frequently been taken too late; when it has undergone a putrefactive fermentation. *Quere*, Would not the matter in that state produce a fever of a putrid tendency or a subsequent debility? Dr. Dimsdale made use, according to his own account, of both ripe and unripe matter; but he recommends it in a fluid state, taken during the eruptive fever, without assigning any reason for his giving the preference to the matter in that state.

Sometimes the matter for inoculation has been taken by mistake from the chicken-pox, which has produced that disease, instead of the small-pox, and the person in consequence has caught the natural disease afterwards, attended with dreadful consequences, and sometimes terminating fatally; and, for a time, bringing variolous inoculation into disrepute.

Dr. Heberden very judiciously observes, that “The chicken-pox occasions so little danger or trouble to the patients, that physicians are seldom sent for, and have therefore very few opportunities of seeing the distemper. Hence it happens, that the name of chicken-pox is met with in very few books, and hardly any author pretends to say a word of its history.

“But though it is so insignificant an illness, that an acquaintance with it is not of much use for its own sake, yet it is of importance, on account of the small-pox, with which it may otherwise be confounded, and so deceive the persons who have had it, into a false security, that may

prevent them from either keeping out of the way, of the small-pox, or from being inoculated.

“ Foreign medical writers hardly ever mention the name of this distemper ; and the writers of our own country scarcely mention any thing more of it, than its name. Morton speaks of it as if he supposed it to be a very mild genuine small-pox.

“ From the great similitude between the two distempers, it is probable, that, instead of the small pox, some persons have been inoculated from the chicken-pox, and the distemper which succeeded has been mistaken for the small-pox, by hasty, inexperienced observers.”

In order, therefore, to prevent such mistakes in future, I shall point out the diagnostic symptoms, or distinguishing signs, by which the chicken-pox may be easily known from the small-pox.

The pustules in the chicken-pox are much larger, on the first day of the eruption, than they are in the small-pox.

The fluid which appears in the pustules, is evidently more transparent in the chicken-pox, than it is in the small-pox.

The maturation commences sooner in the chicken-pox than it does in the small-pox. Even on the first day of the eruption, a fluid may be evidently seen in the pustules, which is never the case in the small-pox.

The pustules are generally less in size in the chicken-pox than in the small-pox.

The pustules in the chicken pox are always at their full maturity on the third day from the beginning of the eruption, as much so as a mild distinct

small-pox is at the seventh day, or the confluent on the eleventh.

The pustules of the chicken-pox on the fifth day of the eruption are almost all dried, and covered with a slight crust. Those of the small-pox, at that time, are not at the height of their suppuration.

The **OPERATION** is to be performed in either one or both arms. The puncture, or incision, should be made at the insertion of the deltoid muscle, and should be very superficial; penetrating the cuticle only; as, when the skin is much wounded, a troublesome ulcer is frequently produced, and sometimes the axilla, or the glands in the armpit, are affected from the same cause.

Since the new mode of inoculation has been practised, (that of making the puncture without wounding the skin) those troublesome inflammations and abscesses, which were often the consequence of inoculation in the old way, have seldom or never occurred.

Dr. Dimisdale says, that out of 1500 patients, he saw but one suppuration of this kind, and that was in a child, who had before had an ulcer in the arm, which had dried up.

Rules respecting food, drinks, air, and exercise, from the time of the operation, to the commencement of the eruptive fever, are so well established, and universally known, by practitioners, that I think it unnecessary to enumerate them.

The SYMPTOMS OF INFECTION. If there be any itching about the part twenty-four hours after inoculation, there may be good reason to expect that the infection has taken the desired effect, and that a very mild small-pox will ensue; for the

first or second day, there is nothing to be observed on the arm, the puncture appearing to be quite healed up; but about the third or fourth day, a small eruption may, in general, be perceived by the touch.

The symptoms of the eruptive fever generally appear about the eighth day, and the eruption makes its appearance not earlier than the ninth, nor later than the eleventh day, in general, from the operation.

The TREATMENT of the eruptive fever, should be with gentle saline purgatives. For children, I generally order either the saline mixture, or nitre, with rhubarb; the latter, in such doses, as will procure two or three stools a day, until the eruptive fever be gone off. The rhubarb will act in much smaller quantities, if united with the nitre or saline mixture, than when given alone, in either children or adults. Should there be a nausea, or sickness of the stomach, a gentle emetic of ipecacuanha must be given; this is preferable to antimonial emetics in the present stage of the disease. The antiphlogistic diet, with cooling diluting drinks, should be administered, and cold air admitted; as they will lessen the violence of the inflammatory symptoms, and in the course of one or two days, generally remove them.

The eruptive fever and the troublesome symptoms having vanished, and the patient resuming, apparently, his usual spirits and state of health, a longer use of medicines would be superfluous; nothing further is requisite to be prescribed, than keeping an open belly, the patient cool, light nourishing food, cooling drinks, and admitting air into the room, or taking the patient into it. The

disease in itself being so mild, that these are the only rules necessary to be attended to, during the whole time of inoculation.

Before I conclude my observations on inoculation, I shall proceed to examine and point out the great difference between the natural small-pox, and that produced by inoculation, and demonstrate that the natural small-pox is a malignant and dangerous disease, attended with consequences of the most troublesome nature, and often producing complaints which terminate fatally, whilst inoculation is a mild and innocent disease, attended with no ill consequences whatever.

The natural small-pox invades at all seasons of the year, at all ages, and under the most unfavourable state of health and constitution of the patient, which circumstances, frequently, render it a malignant and dangerous disease.

Inoculation may be performed at the most proper season of the year, and at any age, and under the most favourable circumstances attending the health and constitution of the person, which contribute to render it a mild and innocent disease.

In the natural small-pox, the eruptive fever, with its concomitant symptoms, are very violent for three or four days, and in general, continue throughout the disease.

In inoculation, the eruptive fever is very mild, and continues one or two days only.

The natural small-pox is often attended with a putrid fever, through the whole course of the disease, which renders it very dangerous.

Inoculation is seldom attended with any fever, after the first or second day, and that is a very mild one, and very frequently none at all.

In the natural small-pox, great determination to the head takes place, producing delirium, stupor, &c. which continue several days, and sometimes throughout the disease.

In inoculation, sometimes, though but seldom, a slight delirium takes place, at the commencement of the eruptive fever, which continues about a day.

In the natural small-pox, determinations to the breast take place, producing inflammation of the lungs, especially about the height of the disease.

In inoculation, no such circumstance happens.

In the natural small-pox, purple spots, bloody urine, bleeding at the nose, blood gushing from the eyes, and from almost every part of the body, I have known often to take place, while I was at the hospital, and the body change into the appearance of a mere lump of dough, dreadful to behold, until death have terminated the scene.

In inoculation, no such symptoms take place.

The natural small-pox, frequently, impairs the constitution, produces consumptive complaints, hectic fever, specks on the eyes and blindness, glandular swellings, and scrophula.

Inoculation, instead of impairing the constitution, improves it, which without hesitation parents will allow, and that all those troublesome and dangerous complaints may be avoided by inoculation.

In the natural small-pox one out of three is attended with the utmost danger.

In the inoculation, not more than one in a thousand may be said to be in danger, and that is owing to some particular circumstance, which, in my opinion, may be prevented.

In the natural small-pox, one out of five dies, some say one out of four.

In inoculation, not more than one out of a thousand died, while I was at the hospital. Quere, would not that one have died out of a thousand, in the course of the twelve months, without giving any disease whatever. I think this may be answered with truth in the affirmative ; suppose three persons, indiscriminately, be taken into any man's house, and kept there for three weeks (which is the case in the hospital) without being inoculated, and treated in the family way the whole time, might it not be expected, from fair calculation, that one of them, through the course of the year, would die?

The great and numerous advantages arising from inoculation of the small-pox, have been fully pointed out, by the learned Dr. M'Kenzie, a physician of great experience, in a book published by him, entitled the "History of Health;" out of which, I shall present the public with an extract.

"Many and great are the dangers, attending the natural infection, from all which the inoculation is quite secure.

"The natural infection may invade weak or dis-tempered bodies by no means disposed for its kindly reception.

"It may attack them at a season of the year, either violently hot, or intensely cold.

"It may be communicated from a sort of small-pox impregnated with the utmost virulence.

"It may lay hold upon people unexpectedly, when a dangerous sort is imprudently imported into a maritime place.

“ It may surprise us soon after excesses committed in luxury, or intemperance.

“ It may likewise seize on the innocent after indispensably watching, hard labour, or necessary journies.

“ And is it a trivial advantage, that all these unhappy circumstances can be prevented by” (the greatest discovery and improvement in medicine)
“ small-pox inoculation?

“ By inoculation, numbers are saved from deformity, as well as from death.

“ In the natural small-pox, how often are the finest features, and the most beautiful complexion miserably disfigured?

“ Whereas inoculation seldom leaves any ugly marks or scars, even where the number of pustules on the face has been very considerable. Many other grievous complaints, that often occur, subsequent to the natural sort, seldom, or never follow the artificial.

“ Does not inoculation, also, prevent those inexpressible terrors that perpetually harass persons, who never have had this disease; insomuch, that, when the small-pox is epidemical, entire villages are depopulated, markets ruined, and the face of distress spread over the whole country?

“ From this terror it arises, that justice is frequently postponed, or discouraged at sessions or assizes, where the small-pox rages.

“ Witnesses and juries dare not appear; and by reason of the necessary absence of some gentlemen, our honourable and useful judges, are not attended with that reverence and splendor, due to their office and merit.

“ Does not inoculation, in like manner, prevent our brave sailors from being seized with this distemper on ship-board, where they must quickly spread the infection, among such of the crew, who never had it before, and where they have scarcely any chance to escape, being half stifled with the closeness of their cabins, and but very indifferently nursed ?

“ Lastly, with regard to the soldiery, the miseries attending these poor creatures, when attacked by the small-pox, on a march, are inconceivable, without attendance, without lodgings, without any accommodation ; so that one out of three commonly perishes.”

Dr. Buchan, very judiciously observes, “ that such as have not had the small-pox, in the early period of life, are not only rendered unhappy, but likewise, in a great measure, unfit for sustaining many of the most useful and important offices.

“ Few persons would chuse, even to hire a servant, who had not had the small-pox.

“ How could a physician, or a surgeon, who had never had the small-pox himself, attend others under that malady ?

“ How deplorable is the situation of females, who arrive at mature age, without having had the small-pox !

“ A woman with child seldom survives this disease :

“ And if an infant happen to be seized with the small-pox, while at the mother's breast, who has not had the disease herself, the scene must be distressing !

“ If she continue to suckle the child, it is at the peril of her own life ; and if she wean it, in all probability, it will perish.

“ I have known the tender mother, and her sucking infant, laid in the same grave, both untimely victims to this dreadful malady.

“ Let parents, who refuse to inoculate them in infancy, consider to what deplorable situations they may be reduced by this mistaken tenderness!

“ As the small-pox is now become an epidemical disease in most parts of the known world, no other choice remains than by inoculation, to render the malady as mild as possible. This is the only manner of extirpation now left in our power.

“ I have often wished to see some plan established for rendering this salutary practice universal; but am afraid I shall never be so happy. The difficulties are many; yet the thing is by no means impracticable. The aim is great: no less than saving the lives of one fourth part of mankind. What ought not to be attempted, in order to accomplish so desirable an end?

“ The first step towards rendering the practice universal, must be to remove the religious prejudices against it.”

I am very sorry to find, that the clergy have been so much deceived and deluded into so pernicious a practice as the cow-pox inoculation; however, out of evil sometimes cometh good. It would afford me great satisfaction to find this observation verified by these gentlemen, in pursuing the small-pox inoculation with the same zeal and energy with which they have introduced the vaccine; not only by recommending the variolous inoculation to their congregations, but also practising it themselves, in their own families: as it is well known with what

facility they can influence the people to an acquiescence in such a salutary practice.

“ No set of men have it so much in their power to render the practice of inoculation general as the clergy; the greatest opposition to it still arising from some scruples of conscience, and religious prejudices prevailing against it; which they alone can remove. I would recommend it to them, not only to endeavour to remove the religious objections to this salutary practice, but to enjoin it as a duty, and to point out the danger of neglecting to make use of a mean which Providence has put in our power, for saving the lives of our offspring. I cannot help recommending it, in the warmest manner, to parents, to consider how great an injury they do their children, by neglecting to give them this disease in the early period of life.

“ Make the practice fashionable, and all objections will soon vanish.” Fashion is the mistress of the world, and fashion alone has led the multitude since the beginning of the creation, and will influence them to the end. “ We must, therefore, call upon the more enlightened part of mankind to set a pattern to the rest. Their example, though it may for a time meet with opposition, will, at length, prevail.” We have the strongest example of this in the cow-pox having been fashionable; all descriptions of persons have not only acquiesced in, but followed the practice.

They who wish to see a further account on the small-pox inoculation, may read a very judicious pamphlet on the subject, written by Mr. Daniel Sutton, to whom we are indebted for the great improvement of the admission of cold air, not only

into the patients chambers, but also allowing them to go into it, during the whole progress of the disease. Also Doctors Buchan, Mead, Dimsdale, Baker, Glass, Watts, and Chandler.

I should have been happy to have had an opportunity of adding to the number of ingenious writers on this subject, Dr. Woodville, which, no doubt, would have been the case, had he performed his promise to the public, in publishing the second volume of the History of Inoculation, from the earliest ages to the present time; but it has not yet appeared, though eight years have elapsed since he published the first, and promised the second volume.

11, *Soho-Square*,
January the 1st, 1805.

FINIS.

